Natural Resources Canada

2017–18

Departmental Plan

The Honourable Jim Carr, P.C., M.P.
Minister of Natural Resources

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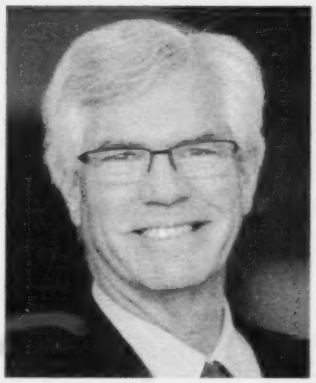
Minister's message



Our 2017–18 Departmental Plan provides Parliamentarians and all Canadians with information on what we do and what we hope to achieve during the upcoming year. To improve reporting to Canadians, we are introducing a new, simplified report to replace the Report on Plans and Priorities.

The title of the report has been changed to reflect its purpose: to communicate our annual performance goals and the financial and human resources forecast to deliver those results. The report has also been restructured to tell a clearer, more straightforward and balanced story of the actual results we are trying to achieve, while continuing to provide transparency on how taxpayers' dollars will be spent. We describe our programs and services for Canadians, our priorities for 2017–18 and how our work will fulfil our departmental mandate commitments and the Government's priorities.

At Natural Resources Canada, our mandate includes ensuring that our resources remain a vital driver of our economy and a source of jobs and opportunity for Canadians. Central to these efforts is helping get these resources to market by rebuilding our relationship with Indigenous peoples and addressing the environmental concerns of Canadians.

More broadly, we are leveraging the fossil fuel resources we have today to deliver clean energy solutions for tomorrow. To get us closer to that future, we are investing in clean technologies, revising regulations in areas such as energy efficiency and cultivating relationships with partners around the world.

Our plans for the future build on what our government has already achieved. In 2016–2017, we made significant progress on our mandate, including negotiating a historic accord with the United States and Mexico on Climate, Clean Energy and the Environment and announcing a Pan-Canadian Framework on Clean Growth and Climate Change.

We saw progress on several major environmental fronts, including ensuring the highest safety standards for pipelines, making the most significant investment ever to protect Canada's oceans and announcing a moratorium on oil tankers near the Great Bear Rainforest/Great Bear Sea area in British Columbia. We also realized major advances in the use of wood in the construction of tall buildings and in promoting trade and investment in Canada's mining sector.

Following extensive consultations with Canadians, we approved the Pacific Northwest Liquefied Natural Gas facility, the Trans Mountain Pipeline Expansion and the Line 3 Pipeline Replacement Program, in addition to approving the Arnaud Apatite Mine, the Woodfibre LNG Project, the Black Point Granite Project, the NOVA Gas Pipeline and the Ridley Island Propane Terminal. Together, these projects will help move our resources to new markets, creating more than 30,000 jobs and opportunities across the country and injecting more than $26 billion into Canada's economy.

NRCan's focus in the year ahead will be on implementing these decisions as well as leading in a number of other areas: advancing clean technology in the natural resource sectors; contributing to the environmental assessment and regulatory review, including modernizing the National Energy Board; contributing to the Pan-Canadian Framework on Clean Growth and Climate Change; advancing the Canadian Energy Strategy; and promoting international collaboration on clean technology, trade and investment.

We will work with our provincial and territorial colleagues to develop a national framework for advancing Canada's forest bioeconomy — an area that holds tremendous potential to create jobs and help combat climate change — and to foster relations with the new US administration to support joint trade and infrastructure priorities. We will also continue to invest in innovative green mining solutions to increase productivity and enhance environmental performance.

To strengthen our relationship with Indigenous peoples, we will work through existing programs, such as our Economic Pathways Partnership, and implement new initiatives including advisory and monitoring committees on pipelines and other major projects.

All of these efforts will bring us closer to the future we seek: a strong resource industry, good jobs for Canadians and an even more sustainable energy supply.

The Honourable Jim Carr, P.C., M.P.
Minister of Natural Resources

Plans at a glance

Canada is rich in natural resources and has benefited through its history from trade with other nations. Canada's natural resources account for approximately 17 percent of Gross Domestic Product (GDP), provide 1.77 million jobs, and contribute close to half of Canada's total merchandise exports ($231 billion in 2015).

In 2017-18, Natural Resources Canada (NRCan) will continue its focus on implementing the commitments articulated in the Prime Minister's mandate letter to the Minister of Natural Resources, and delivering results for Canadians across its core operations.

Economic growth through innovation

Through innovation, Canada's natural resource sectors can be stronger, more sustainable and more economically competitive. Innovation can also set the course of our economy to create jobs and opportunities for generations to come. Canada's supportive investment conditions and highly educated workforce provide the basic conditions needed to develop products, techniques and services which will support the transformation of existing industries and the ability to seize new market opportunities.

In 2017-18, NRCan will provide leadership and scientific expertise in advancing **clean technology in Canada's natural resource sectors**; innovation to **improve efficiency, productivity and environmental performance in energy, forestry and mining**; and, develop a federal-provincial-territorial **forest bioeconomy framework**.

Effective action on climate change

NRCan is actively supporting Canada's policy, research, and regulatory response to clean growth and climate change. In the year ahead, the Department will:

- Implement NRCan's components of the **Pan-Canadian Framework on Clean Growth and Climate Change**[i] including new building codes, electric vehicle charging stations, reducing methane emissions from the oil and gas sector, and protecting and enhancing carbon stored in our forested lands, as well as joint actions with provinces and territories under the **Canadian Energy Strategy** (see accompanying text box on page 4);

- Advance **international collaboration** including through **Mission Innovation,** a global initiative aimed at accelerating clean energy research and technology development, and under the **North American Clean Energy and Environment Agreement** to advance clean energy and integration of energy resources (including renewables), improve energy efficiency, accelerate clean energy innovation and strengthen the reliability, resilience and security of the North American electricity grid; and
- Improve understanding of the cumulative effects of natural resource development and to inform **climate change adaptation** efforts.

Increase trade and foreign direct investment

Canada's vast resource endowment comes with both intergenerational responsibilities as well as significant opportunities. Working closely with other federal partners, domestic and international governments, and stakeholders in Canada and abroad, NRCan will promote trade and investment as well as greater access to foreign markets to maintain Canada's overall natural resources advantage.

Key priorities for 2017-18 are to: foster relations with the **new US administration** to support **joint trade and infrastructure priorities**; support the application of **interim principles** guiding Government of Canada **decisions on major resource projects;** work with international partners on science; and complete the implementation of Canada's obligations under the **Extractive Sector Transparency Measures Act**, part of a global initiative to increase accountability and combat corruption.

CANADIAN ENERGY STRATEGY

Through the Prime Minister's mandate letter to the Minister of Natural Resources, the Government of Canada committed to work with provinces and territories to advance a **Canadian Energy Strategy.**

During 2015 and 2016, the federal government worked in collaboration with provinces and territories to identify joint priorities across all jurisdictions.

In December 2016, Energy Ministers presented a Joint Action Plan for First Ministers that identified a set of collective commitments in four priority areas including:

- **Energy Efficiency:** aligning standards, updating building codes, and facilitating adoption of energy management systems for industry
- **Energy Infrastructure:** exploring new and enhanced electricity interconnections, smart electricity grids, natural gas infrastructure, and improved regulatory review processes
- **Energy Technology and Innovation:** expanding RD&D cooperation and investment and reducing reliance on diesel in remote communities
- **International Energy Collaboration:** deepening collaboration on international energy issues, including joint missions.

Given that energy accounts for 80 percent of Canada's greenhouse gas (GHG) emissions, this work will also contribute to the Pan-Canadian Framework on Clean Growth and Climate Change and support clean economic growth to help Canada transition to a low carbon economy.

The collaborative approach taken between federal, provincial and territorial governments is an important step in reducing GHG emissions and enabling sustainable economic growth. Governments will review progress annually to assess the effectiveness of collective actions and ensure continual improvement.

Improved relationships with, and outcomes for, Indigenous peoples

The Prime Minister has asked all Ministers to do their part to support a renewed relationship with Indigenous peoples, based on recognition of rights, respect, co-operation, and partnership. This renewed relationship is essential for moving forward on a national reconciliation agenda.

In 2017-18 and beyond, NRCan will support this priority by: **expanding engagement with Indigenous peoples** including through the development of joint monitoring environmental committees for pipeline and major projects; supporting necessary **boundary clarification for Indigenous land rights** through the work of the Surveyor General[ii]; and promoting economic partnerships.

Greater safety and security for Canadians

Natural hazards such as floods, earthquakes and forest fires can have devastating impacts on the lives of Canadians, as well as the security of Canada's natural resource infrastructure and overall economy. In order to help ensure Canadians have information to manage their lands and natural resources and are protected from related risks, NRCan's 2017-18 priorities are: advancing the **Canadian Wildland Fire Strategy**, and collaborating with Transport Canada, Fisheries and Oceans Canada (DFO) and Environment and Climate Change Canada (ECCC) to support the implementation of the **Oceans Protection Plan**.[iii]

NRCan will also continue work on **pipeline and offshore safety**, including: using its science and R&D to inform the development of new codes and standards applied to pipeline safety and integrity; certifying individuals in the energy industry to conduct non-destructive testing on materials used in pipelines (and other applications); acting on recommendations for the **modernization of the National Energy Board (NEB)**; and using NRCan-produced mapping data to inform planning and regulatory decisions on pipeline proposals.

For more information on NRCan's plans, priorities and planned results, see the "Planned results" section of this report.

Raison d'être, mandate and role: who we are and what we do

Raison d'être

NRCan works to improve the quality of life of Canadians by ensuring that our natural resources are developed sustainably, providing a source of jobs, prosperity and opportunity, while preserving our environment and respecting our communities and Indigenous peoples.

Mandate and role

The Minister of Natural Resources has responsibilities defined by more than 30 acts of Parliament.[iv] The Minister's core powers, duties and functions are set forth in the Department of Natural Resources Act,[v] the Resources and Technical Surveys Act,[vi] the Forestry Act[vii] and the Energy Efficiency Act.[viii] The Department also works in areas of shared responsibility with provinces, including the environment, public safety, economic development, science and technology, and consultations with Indigenous peoples. The Department fulfils its responsibilities through the development and implementation of policy, regulation, statutory fiscal transfers, grants and contributions, and provides leadership and support for science and technology, partnerships and communications.

SCIENCE AT NRCAN

NRCan' science aims at solving the important challenges of today and tomorrow, such as the country's **transition to a low-carbon economy**, the **competitiveness** of the natural resources sectors, **adaptation to climate change**, and the **safety and security of Canadians**.

The department devotes nearly half of its budget to science. In its 19 research centres located across the country, its scientists collaborate with other federal, provincial, territorial and local governments, and with academic, Indigenous and industry groups, to:

- Provide expert advice to support standards development such as building codes, and decisions on major resources projects such as pipelines and marine terminals;
- Improve understanding of forest fires, earthquakes, climate change and its impacts, and the cumulative effects of resources development;
- Improve Canada's monitoring and reporting on its landmass and waters with state-of-the-art satellites and sensors to provide evidence required in decision-making;
- Support Canada's monitoring systems that provide warnings of hazards that threaten communities and critical infrastructure such as those related to electricity distribution and telecommunications; and
- Generate new ideas through RD&D in areas such as clean technology, new materials, and energy-efficient, geospatial and green mining technologies.

Without scientific projects initiated 10 or 20 years ago, many of today's innovations would not exist. Similarly, research projects currently underway will help solve the critical challenges of tomorrow.

NRCan has offices and laboratories across the country. About one third of its employees are located in the National Capital Region, with the remainder distributed from Atlantic Canada, through Quebec and Ontario, to the Western and Pacific Regions and Northern Canada.

The Minister of Natural Resources is responsible for delivering on mandate letter commitments and aspects of key government priorities in the following areas:

- Collaboration with provinces and territories to advance the Canadian Energy Strategy;
- Collaboration with the Minister of Innovation, Science and Economic Development (ISED), AAFC, DFO, and Global Affairs Canada (GAC) to advance the strategy to advance clean technology in Canada's natural resource sectors;
- Implementation of interim measures for major resource projects;
- Modernization of the NEB;
- Implementation of the North American Clean Energy and Environment agreement in collaboration with ECCC;
- Renewal of relationships with Indigenous peoples; and
- Implementation of the Pan-Canadian Framework on Climate Change and Clean Growth, in collaboration with ECCC.

EXPERIMENTATION AT NRCAN

The industry sectors that NRCan supports are all experiencing unprecedented changes in increasingly dynamic operating environments.

With the Government's increased focus on experimentation with new approaches to existing problems, NRCan is moving towards a **culture of structured experimentation** – systematically identifying the highest risk areas, designing and testing new approaches, gathering and analysing data, sharing results and making iterative and continuous improvements based on the evidence at hand.

Supporting this end-to-end approach, the Department is developing tools for managers to begin using in 2017-18. These will include tools to identify the purpose, intended incremental results and improvements, and to ensure the performance measurement approach is clear from the outset; as well as tools to help managers monitor and measure the change observed as a result of the innovation and to report on results and lessons learned.

Details on delivery of these priorities are provided in this Departmental Plan.

For more general information about the Department, see the "Supplementary information" section of this report. For more information on the Department's organizational mandate letter commitments, see the Minister's mandate letter on the Prime Minister of Canada's website.[ix]

Operating context: conditions affecting our work

Natural resources are an important factor in Canada's history and future. The Government of Canada's inclusive clean growth and low-carbon agenda involves investing in infrastructure and innovation to deepen Canada's relationships with developed and emerging markets. These actions are helping drive the sector's transformation and competitiveness in a low-carbon world, while also getting our resources to market.

CANADA'S WORLD CLASS ADVANTAGES

- World's third-largest per capita resources endowment, with significant untapped resources in Canada's North;
- World's top destination for non-ferrous mining exploration;
- World's third-largest forest area, and the global leader in forest certification;
- Amongst the world's cleanest and lowest-cost producers of electricity – over 80 percent non-GHG-emitting;
- Global leader in public geoscience; and
- A vibrant, growing clean technology sector that generates $11 billion in annual revenues.

The International Monetary Fund (IMF) is predicting a 3.7 percent global growth rate from 2018 to 2021. This growth will be driven in part by rising demand in emerging markets, albeit at slower rates than these countries have experienced over the past number of years. Although the global economy continues to regain momentum and the US is experiencing its longest expansion since 2008 along with a strengthened US dollar, global growth projections continue to slow. China's economy is following an uneven path of economic rebalancing as it expands its domestic supply chains, while reducing its dependence on imported goods.

Canada has felt the recent impacts from a weaker global economy and lagging demand for its natural resources. However, Canada is positioning itself to take advantage of these shifting geopolitical conditions and emerging markets abroad. The IMF has identified Canada as having the greatest growth prospects amongst the G-7 from 2017 to 2021. Canada has a stable investment climate, strong regulatory regime that attracts investment, and some of the world's most attractive resource assets. Canada also has the advantage of being a trading nation in close proximity to the world's major markets for natural resources.

Building the necessary infrastructure to deliver Canada's vast energy resources to markets abroad is increasingly imperative as our traditional market of the US becomes more reliant on domestic sources and energy demand in Asia continues to grow. The Government is engaging Canadians, working with Indigenous peoples and basing its decisions on science and evidence to restore the public confidence necessary to ensure Canada has the modern energy infrastructure capacity needed for current and future generations.

In December 2016, Canada put into place in partnership with provinces and territories, the Pan-Canadian Framework on Clean Growth and Climate Change (PCF),[x] to transition to a low-carbon economy. A progressive, flexible and predictable approach to pricing carbon across Canada will help create clean jobs and new economic opportunities. After doubling between 2005 and 2014, the global clean technologies market is widely expected to triple by 2020 to a value of $3 trillion. The measures put in place through the PCF will make a difference in creating a clean growth economy for Canada that advances environmental and economic interests.

Key risks: things that could affect our ability to achieve our plans and results

This section describes the key risks – both threats, which are negative risks, and opportunities, which are positive risks – that could impede NRCan's ability to deliver on its mandate.

These risks would stem from failing to anticipate trends or events, and then responding with appropriate changes in strategy, policy objectives or program design.

Key risks

Risks	Risk response strategy	Link to the department's Programs	Link to mandate letter commitments or to government-wide and departmental priorities
Climate Change Adaptation and Mitigation: If energy and natural resource decisions do not support Canada's transition to a low carbon economy and adoption of adequate adaptation measures, Canada's climate change commitment to reduce GHG emissions by 30 percent may not be met, the competiveness of our natural resource sectors may be undermined and communities may become increasingly more vulnerable to the impacts of climate change.	**Adaptation** • Budget 2016 funding on Climate Adaptation to ensure stakeholders have access to new knowledge, innovative mining technologies and practices and scientific knowledge on forest disturbances. • NRCan science on climate change impacts on mine waste and water management, and the provision of geospatial products and reports in support of climate change impacts on the north and forest regions. • Lead the work of the multi-stakeholder Adaptation Platform to equip the public and private sector with tools and information for climate change adaptation-related decision-making. **Mitigation** • Budget 2016 included $326 million in support of clean energy and GHG reduction technologies, energy efficiency policies and program and green infrastructure. • Collaborate with other government departments, provinces and territories on GHG reduction programs and activities as per the Canadian Energy Strategy and the Pan-Canadian Framework on Clean Growth and Climate Change.	Canada's Natural Resource Sectors are Globally Competitive Natural Resource Sectors and Consumers are Environmentally Responsible Canadians have Information to Manage their Lands and Natural Resources, and are Protected from Related Risks	**Government Priorities:** Effective Action on Climate Change Greater Safety and Security for Canadians. **Mandate Letter:** Implementation of the Pan-Canadian Framework on Climate Change and Clean Growth Implementation of the North American Memorandum of Understanding on Climate Change and Energy Collaboration Collaboration with Provinces and Territories to Advance the Canadian Energy Strategy

Risks	Risk response strategy	Link to the department's Programs	Link to mandate letter commitments or to government-wide and departmental priorities
Clean Technology and Innovation in the Natural Resources Sector Lack of innovation may reduce job creation and economic growth in Canada's natural resource industries and clean technology sector	• Advance a whole-of-government strategy for advancing clean technology in Canada's natural resource sectors as part of the Government of Canada's commitment to invest over $1 billion in clean technologies. • Lead Canada's participation in Mission Innovation • Develop strategic partnerships to support innovation in natural resource sectors • Support for the Climate Technology Centre and Network that will provide Canadian clean technology producers with business opportunities/partnerships with developing countries	Canada's Natural Resource Sectors are Globally Competitive Natural Resource Sectors and Consumers are Environmentally Responsible	**Government Priorities:** Economic Growth Through Innovation **NRCan Mandate Letter:** Implementation of the Pan-Canadian Framework on Climate Change and Clean Growth
Energy Infrastructure If the public and Indigenous peoples do not have confidence in Canada's ability to expand its infrastructure in a safe and environmentally sound manner, then Canada's ability to grow its economy, increase interconnectedness, and diversify markets may be limited.	• Interim approach and principles for projects currently undergoing an environmental assessment (EA). • Comprehensive review of environmental and regulatory processes, including the NEB. • The establishment of MPMO (NRCan) regional Crown consultation coordinators for Energy East to enhance public engagement, especially with Indigenous people. • Establishment of monitoring and advisory committees for major pipeline projects	Canada's Natural Resource Sectors are Globally Competitive Natural Resource Sectors and Consumers are Environmentally Responsible	**Government Priorities:** Increase Trade and Foreign Direct Investment Improved Relationships with and Outcomes for Indigenous Peoples Pipeline and Offshore Safety **NRCan Mandate Letter:** Collaboration with Provinces and Territories to Advance the Canadian Energy Strategy Renewal of Relationships with Indigenous Peoples Modernization of the NEB Implementation of Interim Measures for Major Resource Projects

Planned results: what we want to achieve this year and beyond

Programs

Program 1.1: Market Access and Diversification

Description

Canada's natural resource sectors face two key barriers to market access and diversification: 1) trade and policy barriers, and 2) lack of awareness of Canada's natural resource products and public confidence. The objectives of this Program are to break down those barriers and support the development and expansion of markets for Canadian natural resource products by making information available to Canadians, supporting negotiations to reduce trade barriers, and ensuring that regulations are up to date. This helps maintain natural resource sectors' access to existing markets and increases their access to new market segments.

Planning Highlights

The Market Access and Diversification Program delivers a range of policy and outreach activities to support Canada in maintaining its access to existing markets, to develop and expand to new and emerging markets, and to support the transition to a low-carbon economy while maintaining a competitive energy sector. This Program is also home to mandate letter commitments relating to the Canadian Energy Strategy (see text box on page 4), renewal of relationships with Indigenous peoples and the modernization of the NEB.

In November 2016, the Government announced decisions on major oil and pipelines to improve Canada's access to export markets. The Government also continues to move ahead with its comprehensive review of environmental and regulatory processes.

IMPROVED RELATIONSHIPS WITH INDIGENOUS PEOPLES

Supporting a renewed relationship with Canada's Indigenous peoples is a key priority for the Government of Canada. NRCan is expanding on-the-ground engagement with Indigenous peoples by co-developing Indigenous advisory and monitoring committees for recently approved energy infrastructure projects (e.g. Pacific Northwest Liquefied Natural Gas, Line 3 Replacement Project, TransMountain Expansion Pipeline project). This initiative is the first of its kind and will offer significant guidance, lessons learned, and insights that are likely to inform future approaches to supporting Indigenous participation in environmental monitoring of major resource development initiatives.

Previous engagement has shown that environmental stewardship and monitoring of resource development is a top priority for Indigenous peoples. The Major Projects Management Office–West will also continue its work with federal departments to identify concrete actions that address Indigenous priorities and interests.

Funding for MPMO-West is scheduled to sunset on March 31, 2018, and any Government decisions to renew this funding will be reflected in future documents.

In 2016-17, the Government established the NEB Modernization Expert Panel to undertake an engagement process with stakeholders and to make recommendations to the Minister of Natural Resources by May 15, 2017. Its mandate involves a review of the Board's structure, role and mandate pursuant to the National Energy Board Act.

The review addresses: governance and structure; mandate and future opportunities; decision-making roles, including on major projects; compliance, enforcement, and ongoing monitoring; engagement with Indigenous peoples; and, public participation. In 2017-18, NRCan will engage with Indigenous peoples, interested stakeholders, provinces and territories as well as the public to consider the expert panel's recommendations and to develop potential legislative and/or policy changes to modernize the NEB.

When completed, the modernization of the NEB is expected to improve Canada's profile as a stable supplier of energy to diverse markets and restore public confidence in the review process for federally regulated energy projects.

INCREASED AND DIVERSIFIED INTERNATIONAL TRADE AND FOREIGN DIRECT INVESTMENT

As a trading nation where natural resources account for roughly half of Canada's total merchandise exports ($231 billion in 2015), bilateral and multilateral engagement activities are a central vehicle to NRCan's activities. In 2017-18 the department will focus on:

- Diversifying markets for higher-value Canadian wood products by expanding Canada's presence in emerging and existing international markets including China, Japan, South Korea and India;
- Collaborate with GAC, provinces, territories and industry to develop new and durable solutions to the softwood lumber dispute with the US;
- Encouraging market access for the Canadian nuclear supply chain in key markets such as China and India;
- Develop civil nuclear cooperation MOUs with key international partners to enhance bilateral collaboration on nuclear energy as a clean technology;
- Strengthening clean technology exports through targeted export missions and market intelligence, support for export financing and marketing, and by leveraging Canada's Trade Commissioner Services;
- Promoting market development and commercial partnerships through bilateral engagement with foreign governments, regulators, businesses and laboratories;
- Advancing Canada's clean energy and climate change mitigation goals through the United Nations Framework Convention on Climate Change, the North American Leaders Summit, and the Clean Energy Ministerial process; and
- Advancing international support for energy security, clean energy deployment, and energy efficiency as foundational elements of the transition to a global low-carbon economy, through multilateral engagement in the G7, G20, the International Energy Agency and the Clean Energy Ministerial.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Natural resource sectors have increased access to existing markets	Natural resource sectors have access to existing markets as defined by exports of energy products, mineral and metal products and forest products	Meet or exceed a rolling ten-year baseline average of Canada's share of the United States and global imports	March 31, 2018	**25.6%** (U.S.) (target 24.3%) **4.4%** (global imports) (target 4.9%)	**27.3%** (U.S.) (target 24.4%) **4.7%** (global imports) (target 4.8%)	**26.6%** (U.S.) (target 24.5%) **4.7%** (global imports) (target 4.7%)
Natural resource sectors have increased access to new market segments	Natural resource sectors have access to new market segments as defined by exports of energy products, mineral and metal products and forest products	Meet or exceed a rolling ten-year baseline average of Canada's share of China's and India's imports	March 31, 2018	**1.5%** (China) (target 1.4%) **0.5%** (India) (target 0.5%)	**1.3%** (China) (target 1.4%) **0.5%** (India) (target 0.5%)	**1.5%** (China) (target 1.5%) **0.7%** (India) (target 0.5%)

Estimates are based on the most recent data available at the time the report was developed. For some indicators, estimates for previous years have been revised based on the latest information.

Budgetary financial resources (dollars) [1]

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
60,190,597	60,190,597	35,202,474	27,967,075

[1] Under this program, the Expanding Market Opportunities program is scheduled to sunset on March 31, 2018, and any government decision to renew the funding will reflected in future documents. The Federal Infrastructure Initiative, which funded improvements to Government infrastructure such as laboratories, ends March 31, 2018.

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
267	242	235

Program 1.2: Innovation for New Products and Processes

Description

Optimizing the use of Canada's natural resources and the processes by which they are developed would improve the productivity and competitiveness of natural resource sectors. The objective of this Program is to maximize productivity and competitiveness by encouraging the adoption of new technologies and processes and the development of new products. These objectives are achieved by conducting and supporting research and development and by delivering frameworks and policies for, and demonstrations of, new applications, technologies, processes, and products.

Planning Highlights

In 2017-18, the Innovation for New Products and Processes Program will be focused on developing a federal-provincial-territorial **forest bioeconomy framework**, advancing technologies to improve efficiency and productivity in mining (including **rare earth elements and chromite**), and supporting **earth observation**.

For Canada's forest sector, innovation is integral to meeting the challenges of its cyclical and structural changes, and those related to climate change. There is consensus amongst federal, provincial and territorial governments that the development of a **forest bioeconomy** is an approach that offers the potential for economic growth in a clean and sustainable manner. In September 2016, the Canadian Council of Forest Ministers (CCFM) committed to the development of a National Forest Bioeconomy Framework, to be tabled at the next CCFM in the fall of 2017. The Framework will identify issues, preconditions for success, and options for federal, provincial, and territorial governments to guide the development of regional and national strategies. It will also identify specific actions to create favourable conditions such as a regulatory structure that encourages investment and development of standards that take into account Canada's natural resource advantages.

In 2017-18, NRCan will support the development of a more innovative and diversified range of forest products that are critical to sustaining economic competitiveness of the sector. Through its programs geared toward forest sector innovation, the Department will continue to support research, development, testing and commercialization of technologies, processes and products that enhance the competitiveness of Canada's forest sector, specifically non-traditional, higher-value products.

NRCan will also advance its research on cleaner and more efficient extraction and production of **rare earth elements (REE) and chromite**. REE are key components to many new clean technologies that underpin the global transition to a lower carbon economy – such as energy efficient lighting, hybrid vehicles, rechargeable batteries, wind turbines, radar systems, catalytic converters, metal alloys that resist corrosion. The program will deliver process efficiencies; economic and market analyses to inform technology gaps; laboratory and pilot-scale testing facilities; technical reports and publications; highly qualified personnel (HQP); and new processes. As a result, Canada will be better positioned to develop a strategic market for REE and to develop chromite deposits.

The Department will continue development and demonstration of **technologies to increase productivity in mining operations**, including techniques to break rocks without explosives, saving considerable time and money for mining operations; engineering rock bolts (for stabilizing rock excavations) with sensors to monitor rock bolt integrity; and advancing the development of a facility to cost-effectively test ground support systems.

In 2017-18, NRCan will develop new science and technology to support the readiness of the Government's 2018 launch of the RADARSAT Constellation Mission.[xi] This mission includes provision of **earth observation satellites** that will provide daily coverage of Canada's landmass and surrounding waters, supporting efforts in maritime surveillance, disaster management and ecosystem monitoring.

The Department will **develop innovative geospatial processes, technologies and standards** to help shorten investment cycles and reduce cost barriers to small and medium sized firms and will support cutting-edge developments (e.g. Smart Cities initiatives, the Internet of Things), and new platforms for aerial, space and ground-based sensor development.

NRCan will also continue its on-going work to position Canada as a global destination for geospatial (location-based) mapping, to maximize the competitiveness of Canada's natural resource, geomatics (e.g. remote sensing, computer mapping, geographic information systems and global positioning), and information technology sectors.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Natural resource sectors increase production of new products and processes	Number of new products and processes resulting from NRCan information	**2** per year	March 31, 2018	**Achieved**	**2**	**2**
	R&D expenditures in natural resource sectors, specifically total intramural R&D expenditures in energy, mining and forest sectors	Meet or exceed a rolling ten-year baseline average of Canada's total intramural R&D expenditures in energy, mining and forestry sectors	March 31, 2018	**15.7%** (based on 9 years of annual data available) (target 14.5%)	**12.4%** (target 14.2%)	**13.2%** (target 14.3%)
Methodologies, policies, strategies, plans and standards are collaboratively used by governments and private sector organizations in the development of new innovative and value-added geospatial applications	Number of formally adopted methodologies, policies, strategies, plans and standards generated from collaborative activities and participation	5	March 31, 2018	Performance indicator did not exist in 2013-14	Performance indicator did not exist in 2014-15	**5**

Estimates are based on the most recent data available at the time the report was developed. For some indicators, estimates for previous years have been revised based on the latest information.

Budgetary financial resources (dollars) [2]

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
109,154,844	109,154,844	39,171,754	37,607,582

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
289	255	252

Program 1.3: Investment in Natural Resource Sectors

Description

Investing in the development of natural resources is costly and risky due to inherent uncertainties in the potential economic viability of natural resource projects. Many factors must be considered when deciding whether to develop a natural resource project. In some cases, limited information may make it difficult for investors and/or companies to assess potential opportunities. The objective of this Program is to encourage investment in the natural resource sectors by increasing industry's knowledge of opportunities, regulations and obligations. This ensures that a more accurate assessment of the expected benefits of an investment can be made and subsequently compared to its costs and risks, thereby allowing for a more comprehensive investment decision. This objective is achieved by providing funding and information on the factors that determine the potential economic viability of natural resource projects.

Planning Highlights

The Investment in Natural Resource Sectors Program covers a range of activities aimed at encouraging investment in the natural resources sectors. In 2017-18, this includes not only advancing the Minister's mandate letter commitment to support the **review of Canada's environmental assessment process** (in coordination with other responsible ministers), but also producing knowledge, data and mapping support industry investment decision-making on exploration opportunities.

Through its leadership role in the MPMO, NRCan will continue to provide horizontal leadership across the federal government, overarching project management, and accountability for major

[2] Under this program, the Forest Innovation Program and the Investments in Forest Industry Transformation Program are scheduled to end March 31, 2018, and any government decision to renew this funding would be reflected in future documents. The Federal Infrastructure Initiative, which funded improvements to government infrastructure such as labs ends March 31, 2018.

resource projects within the context of the existing federal regulatory review process. NRCan will also continue to implement the Government's Interim Strategy for pipeline and other major resource project reviews during the broader review of environmental assessment processes, with emphasis placed on carrying out meaningful public engagement and Crown Consultations with Indigenous peoples.

NRCan has partnered with Statistics Canada to modernize the collection and dissemination of **socio-economic data on mineral exploration**, deposit appraisal and mine complex development expenditures as well as the value of production. A pilot project began in 2016-17 and will continue through 2017-18 and beyond to identify lessons learned and demonstrate the value-added of such a transformation, with the goal of increasing efficiency and improving program delivery.

INCREASED AND DIVERSIFIED INTERNATIONAL TRADE AND FOREIGN DIRECT INVESTMENT

Canadian extractives companies operating home and abroad are expected to respect all applicable laws and conduct their activities in a responsible manner. NRCan provides leadership and support to Canadian companies in their efforts by:

- Developing and disseminating tools for industry to support the implementation of **Corporate Social Responsibility** initiatives;
- Promoting transparency by administering the **Extractive Sector Transparency Measures Act**, part of a global initiative to increase accountability and combat corruption and misuse of resource revenues; and
- Administering the **Export and Import of Rough Diamonds Act** and implementing the **Kimberley Process Certification Scheme** to reduce the risk of conflict diamonds entering the global market and ensuring market access for Canadian rough diamond producers and users.

In 2017-18, NRCan's Geo-mapping for Energy and Minerals (GEM)[xii] program, which focuses on Canada's Northern region, will produce a new map of the surface geology south of the Ungava Bay in Northern Quebec, an area that has not yet been mapped to modern standards. A new map of the Northern Ellesmere Island in Nunavut will also be produced, providing up-to-date information about how the Arctic Ocean has influenced the type and quantity of petroleum and mineral resources in the region.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Natural resource sectors have increased investment	Growth of energy sector capital expenditures (average of past 5 years) compared to growth in overall capital expenditures in Canada (average of past 5 years)	The past 5-year average growth rate of energy sector capital expenditures is equal to or greater than the past 5-year average growth rate in total capital expenditures in Canada	March 31, 2018	**16.6%** compared to average growth rate of 7.2%	**5.7%** compared to average growth rate of -3.1%	**-1.0%** compared to average growth rate of 0.7%
	Growth of forest sector capital expenditures (average of past 5 years) compared to growth in overall capital expenditures in Canada (average of past 5 years)	The past 5-year average growth rate of forest sector capital expenditures is equal to or greater than the past 5-year average growth rate in total capital expenditures in Canada	March 31, 2018	**19.3%** compared to average growth rate of 7.2%	**15.7%** compared to average growth rate of 3.1%	**9.0%** compared to average growth rate of 0.7%
	Growth of minerals and metals sector capital expenditures (average of past 5 years) compared to growth in overall capital expenditures in Canada (average of past 5 years)	The past 5-year average growth rate of minerals and metals sector capital expenditures is equal to or greater than the past 5-year average growth rate in total capital expenditures in Canada	March 31, 2018	**16.1%** compared to average growth rate of 7.2%	**6.1%** compared to average growth rate of 3.1%	**-2.6%** compared to average growth rate of 0.7%

Estimates are based on the most recent data available at the time the report was developed. For some indicators, estimates for previous years have been revised based on the latest information.

Budgetary financial resources (dollars)[3]

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
73,163,653	73,163,653	67,873,990	59,380,256

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
395	394	391

Program 1.4: Statutory Programs – Atlantic Offshore

Description

Through this Program, NRCan monitors and facilitates payment disbursal agreements and transfer payments under the Atlantic Offshore Accord Acts. The Program includes the following programs: Canada Newfoundland and Labrador Offshore Petroleum Board; Payments to the Newfoundland and Labrador Offshore Petroleum Resource Revenue Fund; Payments to the Nova Scotia Offshore Revenue Account; Nova Scotia Crown Share Adjustment Payment; and Canada-Nova Scotia Offshore Petroleum Board.

Planning Highlights

NRCan will process offshore transfer payments to both Nova Scotia and Newfoundland and Labrador as required under the Accord Acts, in a timely and accurate manner. Payment obligations are largely driven by oil and gas prices, production levels and anticipated corporate income taxes. Economic modeling forecasts in fall 2016 predict an increase in these obligations.

[3] Under this program, Geo-Mapping for Energy and Minerals and the Targeted Geoscience Initiative are scheduled to end March 31, 2019, and any government decision to renew the funding will be reflected in future documents. The Federal Infrastructure Initiative, which funded improvements to government infrastructure such as laboratories, ends March 31, 2018.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Statutory requirements relating to offshore petroleum payments in Nova Scotia and Newfoundland and Labrador are managed in a timely manner	Percentage of offshore payments processed in a timely manner	**100%**	Ongoing	**100%**	**100%**	**100%**

Budgetary financial resources (dollars)

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
408,998,253	408,998,253	521,471,910	612,961,306

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
0	0	0

Program 2.1: Energy-Efficient Practices and Lower-Carbon Energy Sources

Description

Canada's energy markets are defined by the decisions of energy consumers and producers. However, there are multiple barriers to the adoption of energy efficient practices and implementation of lower-carbon energy sources, including a lack of awareness of available options and their benefits, insufficient capacity for adoption (e.g., regulatory frameworks, codes and standards), and financial risk. The objective of this Program is to address these barriers by encouraging and enabling energy consumers and producers to adopt cleaner and more energy efficient technologies, products, services and practices. These objectives are achieved through education and outreach activities, targeted incentives, and regulatory interventions that keep pace with technological changes.

Planning Highlights

NRCan's Energy-Efficient Practices and Lower-Carbon Energy Sources Program delivers on three of the Minister's mandate letter commitments, including the **North American Clean Energy and Environment Agreement**, the **Canadian Energy Strategy**, and the **Pan-Canadian Framework for Clean Growth and Climate Change.**

In 2017-18, in support of these mandate letter commitments and to advance clean growth and the longer term decarbonisation of the economy, NRCan will undertake a number of key initiatives.

The Department will invest in infrastructure to **support the transition to a cleaner transportation system** and make low-carbon vehicles more attractive to Canadians. These investments will support the development of new tools to inform consumer vehicle purchasing decisions and to encourage fuel-efficient driving behaviours. Through the Electric Vehicle and Alternative Fuel Infrastructure Deployment Initiative, NRCan will also help reduce financial risk to investing in fast-charging infrastructure for electric vehicles and natural gas and hydrogen refueling stations along highly-travelled passenger and freight corridors.

NRCan will **improve the energy efficiency of homes and buildings** by enhancing the National Energy Code for Buildings to support net-zero energy ready buildings and by adding a new component to the ENERGY Star Portfolio Manager tool for existing buildings that allows property owners to compare their energy use and prompt them to make necessary improvements. The Department will also collaborate with provinces and territories on housing sector programs to improve the energy efficiency of homes through various initiatives (e.g., EnerGuide, ENERGY STAR and R-2000).

The Department will help **improve energy efficiency in Canada's industrial sectors** by providing energy management tools such as ISO 50001 and the Superior Energy Performance program. NRCan is also launching the ENERGY STAR for Industry program in Canada to help businesses track, analyze, and improve industrial energy; and launching ENERGY STAR for Industry Challenge to raise awareness of the benefits of energy management in industrial operations.

To support the **transition towards low-carbon** sources in clean electricity NRCan will strengthen dialogue with provinces, territories and utilities, through the Regional Electricity Cooperation and Strategic Infrastructure initiative to find the most promising electricity infrastructure projects to reduce greenhouse gas emissions. The Department will continue the ecoENERGY for Renewable Power (ecoERP) program aiming to generate 11.7 TWh (terawatt-hour) of electricity generation from 106 renewable energy projects across Canada (1 TWh supplies electricity for about 84,000 typical Canadian homes for one year).

NRCan will also continue its work to **strengthen alignment with North American governments** by proposing alignments in energy efficiency standards for 17 product categories in the residential, commercial and industrial sectors. Canada will also collaborate with the US and Mexico on a common benchmarking platform for the freight sector (the SmartWay Freight Partnership) and accelerate the adoption of ISO 50001, an innovative energy management system in the industrial sector.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Energy consumers and producers adopt environmentally responsible products and practices related to energy use and production	Canada's total annual energy savings due to efficiency (difference between energy use without energy efficiency improvements and energy use with energy efficiency improvements; petajoules (PJ))	Positive five-year trend in PJ saved	Ongoing	Achieved – reduced energy use by **409 PJ**	Achieved – reduced energy use by **353 PJ**	Achieved – reduced energy use by **1,613.2 PJ**
	Renewable electricity generation capacity in megawatts (MW) across Canada	Positive five-year trend in renewable electricity capacity (MW), as per 2014 baseline, compared to overall electricity sources	Ongoing	**Increase** from 6,753 MW in 2007 to **9,261 MW in 2010**	**Increase** from 9,261 MW in 2010 to **14,301 MW in 2013**	**Increase** from 14,301 MW in 2013 to **17,236 MW in 2014**

Estimates are based on the most recent data available at the time the report was developed. For some indicators, estimates for previous years have been revised based on the latest information.

Budgetary financial resources (dollars)[4]

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
183,461,546	183,461,546	137,174,523	107,117,070

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
252	162	163

Program 2.2: Technology Innovation

Description

S&T is key to overcoming challenges confronted by natural resource sectors in pursuing responsible development. Through this Program, NRCan encourages academia, industry and the public sector to research, develop and demonstrate innovative solutions. This objective is achieved through the generation and dissemination of scientific knowledge, and the development and demonstration of new technologies.

Planning Highlights

NRCan's Technology Innovation Program addresses the Minister's mandate letter commitment to support innovation and the use of clean technologies in natural resources sectors, and to invest in clean technology producers. The Program also supports the federal government's commitment to Mission Innovation, a global initiative that aims to accelerate clean energy research and technology development.

In 2017-18, NRCan will pursue the implementation of initiatives announced in Budget 2016 to support early actions on clean energy innovation, which include:

- **Electric Vehicle Infrastructure Demonstration Program** – Funding for technology demonstration projects that reduce costs and address technical hurdle in order to facilitate the deployment of next-generation electric vehicle charging infrastructure;

[4] Under this program, ecoERP has a decline in funding over the next 3 years; the Clean Growth and Climate Change and Green Infrastructure are scheduled to end March 31, 2018; and any Government decision to renew this funding would be reflected in future documents. The Federal Infrastructure Initiative, which funded improvements to Government infrastructure such as laboratories, ends March 31, 2018.

- **Oil and Gas Clean Technology Program** – Investments in demonstration technologies that will reduce GHG emissions from the oil and gas sector; and
- **Clean Energy Technology Innovation Program** – Funding to support research, development and demonstrations of clean energy technologies with the greatest potential to reduce GHG emissions in Canada.

In addition, the Department will deliver existing programming, such as the Program for Energy Research and Development (PERD), which funds collaborative federal research and development projects that reduce technology development risks inherent in the early stages of the innovation cycle, encourage private sector investment, and inform Canadian codes, standards and policies. In 2017-18, PERD projects will continue to focus on environmental and competitiveness objectives under the three PERD portfolio areas: End Use, Clean Electricity and Renewables, and Fossil Fuels.

Recognizing innovation as a key pathway for competitiveness and environmental leadership in Canada's natural resource sectors, Budget 2016 also committed $1 billion over four years to support **clean technology** innovation in the natural resource sectors.

In 2016-17, NRCan consulted Canadians to hear their views about how best to target federal efforts. The conclusions drawn from the consultations include that Canada needs to:

- Develop a shared clean technology vision and purpose, developed with provinces, territories, Indigenous groups, academia and industry;
- Position itself for success beyond 2030 by supporting game-changing breakthrough technologies;
- Strengthen international R&D partnerships to solve complex sustainability issues at the global level;
- Provide easy access to Government of Canada programs for small and medium-sized enterprises; and
- Support clean technology firms in accessing both domestic and international markets.

In 2017-18, NRCan's CanmetMATERIALS laboratory will conduct R&D on materials for **oil and gas pipelines** to inform the development of new codes and standards to ensure pipeline safety and integrity. The lab will also present to industry a new advanced material technology to improve design and processing of components for energy efficient vehicles produced in North America.

The Technology Innovation Program will also focus on technology development to **reduce the environmental footprint of mining operations**, including increasing energy efficiency, reducing GHG emissions, minimizing wastes, and increasing productivity. In 2017-18, the program will demonstrate technologies that can cost-effectively recover metals from mine

wastes, and develop technologies to help ecosystem restoration, facility closure, treatment and reuse of water. In addition, it will improve understanding of the biological, chemical and physical factors that influence the fate and toxicity of metals towards the development of a watershed-based approach for cumulative effects assessment.

This program also supports the Federal Nuclear Science & Technology Program (FNST), which advances nuclear research in support of core federal mandates, including clean energy, health, and non-proliferation. Launched in September 2015, the federal government has committed $76 million to the FNST program annually for a period of ten years. The program is designed to fund work at Canadian Nuclear Laboratories (CNL) in support of federal roles, responsibilities and priorities in collaboration with 13 federal departments and agencies, while maintaining necessary capabilities and expertise at CNL. The program work plan is divided into five research themes: Health Effects of Radiation; Security, Non-Proliferation and Counter-Terrorism; Preparedness and Emergency Response; Nuclear Technology; and Waste Management.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Stakeholders invest in S&T to address environmental challenges	Dollar value of stakeholder investments in S&T to address environmental challenges	5% increase over the average of the previous 5 year period	March 31, 2018	**Achieved**	**11%**	**11%**

Estimates are based on the most recent data available at the time the report was developed. For some indicators, estimates for previous years have been revised based on the latest information.

Budgetary financial resources (dollars)[5]

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
219,965,182	219,965,182	81,401,428	77,567,268

[5] Under this program, Clean Growth and Climate Change and Green Infrastructure are scheduled to end March 31, 2018, and any Government decision to renew this funding would be reflected in future documents. The Federal Infrastructure Initiative, which funded improvements to Government infrastructure such as laboratories, ends March 31, 2018.

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
646	539	541

Program 2.3: Responsible Natural Resource Management

Description

Greater knowledge of environmental risks and environmentally responsible practices help prevent and reduce the environmental impacts of past, present and future natural resource development. The objectives of this Program are to enable government departments, regulatory bodies and industry to assess these impacts, and to develop, monitor and maintain resources responsibly. These objectives are achieved through the provision of assessments and knowledge rooted in sound science.

Planning Highlights

In 2017-18, a key priority under the Responsible Natural Resource Management Program will be to improve the understanding and mitigation of the cumulative effects of natural resource development.

To this end, NRCan will provide new 'big data' tools for analyzing earth observation data to detect changes in land and water. This information will help Canadians and natural resource companies to better understand the impacts of resource development over time and will support environmental assessment processes.

The Department will also conduct scientific studies on earthquakes induced by shale gas development to provide guidance to provincial and territorial energy regulators and carry out a pilot project to evaluate groundwater volume using modelling techniques and earth observation technology. The results will be made available to other departments and levels of government, planners and land-use professionals through the Groundwater Information Network.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Public and private sectors establish practices to mitigate the environmental impacts to natural resources	Number of public and private sector new or updated policies, regulations or other decision-making tools completed annually	3 per year	March 31, 2018	**Achieved**	4	4

Budgetary financial resources (dollars)

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
27,437,623	27,437,623	27,055,064	26,119,409

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
186	184	185

Program 3.1: Protection for Canadians and Natural Resources

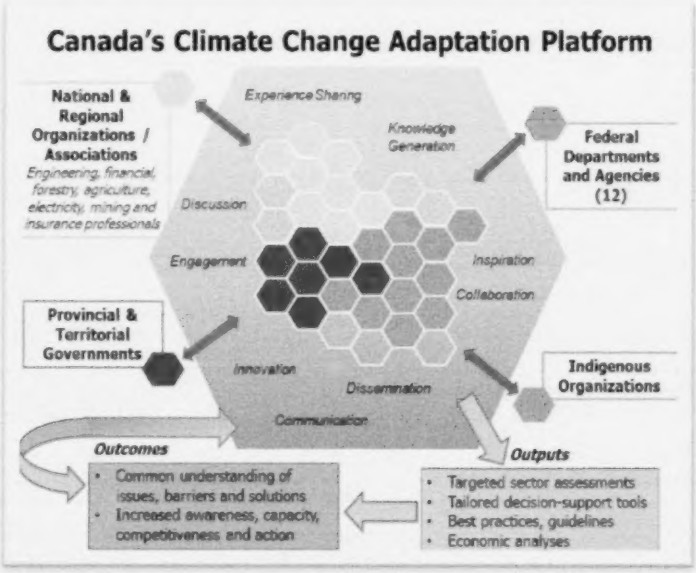
Description

Natural resource development and changes in the environment pose risks to human, natural resource and infrastructure health. The objective of this Program is to enable other government departments, communities, and the private sector to manage these risks and to ensure the appropriate capacity is in place. NRCan achieves this objective by providing regulation, knowledge, tools and services and by fulfilling legislated responsibilities.

Planning Highlights

In 2017-18, to support the Government's broader climate change agenda, the Protection for Canadians and Natural Resources Program will focus efforts on **climate change adaptation** across natural resources sectors and regions.

The Department will co-host the meeting of Canada's Adaptation Platform[xiii] with the Disaster Risk Reduction Roundtable in Halifax in November 2017, fostering cross-disciplinary relationships and improving the integration of climate change adaptation into disaster risk reduction activities.



NRCan will also develop and share knowledge and tools,[xiv] provide science information, and build capacity to enhance the resilience of communities and infrastructure to the impacts of climate change, particularly on Canada's north and coasts. This knowledge will help Canadians identify and prioritize activities to better adapt to a changing climate.

EFFECTIVE ACTION ON CLIMATE CHANGE

As part of its climate change adaptation work, in 2017-18, NRCan will initiate the next **national assessment of climate change impacts** and launch a call for proposals for projects to support **resiliency and adaptation**.

This work will help communities across Canada to improve their understanding of the impacts of climate change on their local surroundings, thus enabling more informed planning and decision-making around adaptation and climate resilience.

In addition, NRCan will continue to conduct scientific studies to support **marine safety** as part of the Oceans Protection Plan.[xv] In 2017-18, NRCan will generate maps of the seafloor to provide increased knowledge of natural hazards that could affect port facilities, tanker safety and oil-spill prevention on the B.C. Coast. The Department will also develop flood plain maps for Canada, in partnership with Public Safety Canada and emergency responders, to inform emergency response plans and decisions on land use.

In 2017-18, NRCan will also work collaboratively with provinces and territories to continue implementation of the **Canadian Wildland Fire Strategy**, with a focus on enhanced wildland fire risk assessment, advancements in fire response, and risk reduction. This initiative will include efforts to better understand the impacts of climate change on wildland fire activity, to improve information available for fire management agencies and first responders, as well as to develop science-based solutions that help reduce wildland fire risk for forest-based communities.

GREATER SAFETY AND SECURITY FOR CANADIANS

NRCan science provides the basis for critical monitoring systems that provide warnings of hazards and information products to help responders address emergencies such as floods, earthquakes and forest fires which can threaten our communities and critical infrastructure (e.g. electricity distribution and telecommunications). In particular, NRCan's 2017-18 priorities include:

- Supporting the Oceans Protection Plan, by promoting marine safety through increased knowledge of seafloor hazards; and
- Advancing the **Canadian Wildland Fire Strategy** in cooperation with provinces and territories.

NRCan will finalize four years of experiments assessing the viability of early interventions against the spruce budworm. It will support communities coping with the impact of the emerald ash borer through strategies to slow the spread and reduce the impact, in addition to providing tools to better detect new alien species. It will also continue research efforts to understand mountain pine beetle dispersal in Western Canada, which informs interprovincial efforts to slow its spread.

In 2017-18, NRCan will be launching the Single Window Initiative for its Explosives Licence Management System, which will phase-out the current paper-based records system and provide convenience for stakeholders as they will be able to apply and pay for licences, permits, and certificates on-line.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Governments, communities and the private sector manage risks or opportunities to natural resources, infrastructure, and human health	Number of risk assessments (climate change, geohazards, other), policies, regulations, plans, standards (codes) or guidelines developed using NRCan information or services	**5** per year	March 31, 2018	Performance indicator did not exist in 2013-14	**10**	**8**
	Number of active collaborations with the public and private sector that manage risks or opportunities to human population, natural resources and infrastructure health	**6** collaboration agreements	March 31, 2018	**3**	**6**	**6**

Budgetary financial resources (dollars)[6]

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
70,418,079	70,418,079	59,079,852	58,383,883

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
414	404	403

[6] Under this program, the Federal Infrastructure Initiative, which funded improvements to Government infrastructure such as laboratories, ends March 31, 2018.

Program 3.2: Landmass Information

Description

Public, academic and private sectors as well as Canadians rely on up-to-date, comprehensive and accessible landmass information to make sound socio-economic and environmental decisions. This Program provides open access to Canada's fundamental geomatics framework and information system, including accurate three-dimensional positioning, high-resolution satellite imagery and other remote sensing products, legal (boundary) surveys, mapping and other analysis applications. In addition, it delivers logistics support in the North and regulatory oversight for a robust property system framework on Canada Lands.

Planning Highlights

Maps and Global Positioning System (GPS) are tools that citizens, businesses, and governments use every day. NRCan provides the measurement science and technology for GPS tools (from smartphones to assessing earthquake hazards) and online maps to fit with three-dimensional reference grid[xvi] (latitude, longitude and height) used on Canada's landmass and offshore. In 2017-18, the Landmass Information program will be developing a national strategy to respond to the demand from GPS users for increased precision.

IMPROVING RELATIONSHIPS WITH INDIGENOUS PEOPLES

Supporting a renewed relationship with Canada's Indigenous people is a priority for the Government of Canada.

NRCan provides boundary certainty related to land rights on First Nation reserves and territorial lands through its system for delivering and administering legal property and jurisdictional boundary surveys.

This work supports self-government and economic self-determination for Indigenous peoples and provides foundational knowledge for land administration, including improving housing and infrastructure, as well as supporting community aspirations for land use.

The Department continues to increase the speed, accuracy, and precision of information from its satellite infrastructure to provide several layers of information for online maps to illustrate features such as infrastructure, geography, place names, ice and shorelines, and natural resources. NRCan is also responsible for gathering advanced geological imagery of Canada's territory, including what is underground or under water, such as the rock bed, permafrost, seafloor, and the limits of the continental shelf.

The Department works collaboratively with Indigenous peoples, provinces and territories, and other federal government departments. Public authorities use NRCan's online maps for land-use planning and assessing potential environmental impacts. Online maps are also critical for first responders to help their hazard mitigation and emergency planning and response, as well for the Armed Forces to support their operations. Over time, NRCan mapping data collected over time

can also be used to analyze the impact of climate change or natural resource development on land and water. NRCan's mapping information is also important to energy and mining investors so they can target their exploration activities. They also support Canada's claim over the natural resources of the seabed and subsoil of its extended continental shelf that would otherwise be considered to be in international waters.

NRCan will expand **publicly accessible landmass information** through the GeoBase[xvii] and Open Maps[xviii] platforms and will continue to ensure that Canadians have access to accurate and authoritative satellite imagery, survey and mapping data. NRCan's landmass information and data are used by governments, private companies and Canadians to make informed decisions about sustainable land use and development.

Through the Polar Continental Shelf Program,[xix] NRCan will provide assistance and coordinate logistics support for scientific research in the Arctic region and contribute to the exercise of Canada's sovereignty.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Stakeholders discover and access geospatial assets to inform decision-making, reporting, operations and research	Satisfaction with discoverability and access to geospatial assets	Improvement over previous reporting period on satisfaction with overall discovery and access	March 31, 2018	Performance indicator did not exist in 2013-14	Performance indicator did not exist in 2014-15	Performance indicator did not exist in 2015-16
Public, private sector and academia use accurate, Government of Canada geo-information for decision-making	Evidence identifying that Canada Lands Survey System activities are meeting stakeholder needs (rating scale out of 10)	8	March 31, 2018	Performance indicator did not exist in 2013-14	Performance indicator did not exist in 2014-15	Performance indicator did not exist in 2015-16

Polar Continental Shelf Program (PCSP) clients receive cost-effective logistics support needed to conduct field work safely in Canada's Arctic and Sub-arctic regions	Level of client satisfaction with mix, quality and cost of support received	**85%** of clients are either satisfied or very satisfied	March 31, 2018	Performance indicator did not exist in 2013-14	Performance indicator did not exist in 2014-15	**90%**
Governments and other program stakeholders can access a suite of up-to-date, comprehensive geospatial assets	Percentage of landmass foundational data collections with renewed coverage	**15%** of all data collections are updated or newly produced	March 31, 2018	Performance indicator did not exist in 2013-14	Performance indicator did not exist in 2014-15	Performance indicator did not exist in 2015-16

Budgetary financial resources (dollars)

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
49,150,177	49,150,177	45,914,237	46,185,753

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
386	378	377

Information on NRCan's lower-level programs is available on NRCan's website[xx] and in the TBS InfoBase.[xxi]

Internal Services

Description

Internal Services are those groups of related activities and resources that the federal government considers to be services in support of programs and/or required to meet corporate obligations of an organization. Internal Services refers to the activities and resources of the 10 distinct service categories that support Program delivery in the organization, regardless of the Internal Services delivery model in a department. The 10 service categories are: Management and Oversight Services; Communications Services; Legal Services; Human Resources Management Services; Financial Management Services; Information Management Services; Information Technology Services; Real Property Services; Materiel Services; and Acquisition Services.

Planning Highlights

NRCan's Internal Services will continue efforts undertaken in 2016-17 to support the Department in advancing the Minister's mandate letter commitments and Government of Canada priorities, including in the following areas.

Open Government and Public Engagement

As part of its Open Government agenda, NRCan is transitioning to a 'digital first' model for communications and engagement in order to reach all Canadians on issues that matter most to them. Prioritizing digital allows for a wider variety of social media tools to reach more audiences, measure uptake and continuously improve, respond and engage the general public in meaningful policy conversations.

Supporting the dissemination of scientific information through the Open Government agenda, NRCan is working with federal partners including AAFC, DFO, ECCC, National Research Council Health Canada, Health Canada and the Public Health Agency of Canada to advance the award-winning[xxii] Federal Science Library (FSL). In 2016-17, the FSL was launched as single point of access to library holdings of its federal partners (including 80,000 maps and 520,000 photographs from NRCan collections); in 2017-18, these collections will be made available to the public. From the FSL website and in library catalogues throughout the world, NRCan publications and materials will be available to view and download online from a central repository.

Results and Delivery

As part of its implementation of TB's Policy on Results, NRCan will complete the development of its new Departmental Results Framework (DRF) that sets out a department's core responsibilities, expected results and related performance indicators. To support these efforts, in

2017-18 NRCan will roll out the necessary changes to financial, IM and IT systems. The Department will also use its new Performance Measurement and Evaluation Committee to oversee and provide guidance to the ongoing implementation of the new DRF.

To facilitate higher quality planning and reporting on the delivery of results under the new DRF and on mandate letter commitments, the Department will also make improvements to its data infrastructure, and introduce mechanisms to advance and measure efforts towards experimentation with new approaches to existing problems.

Workforce and Workplace

NRCan aspires to foster a culture where mental health and wellness are supported in all aspects of the workplace through training, communication and engagement. In 2017-18, the Department will develop a multi-year strategy and action plan on mental health and wellness in the workplace, which will target reduced stigma around mental health issues and increased support mechanisms, and include key elements of the National Standard on Psychological Health and Safety in the Workplace.

NRCan will leverage streamlined staffing processes and improvements to classification services to support business leads. Progress will continue on managing talent and succession planning, particularly with regard to leadership and the scientific community, with a focus on Employment Equity groups. NRCan will continue to actively monitor pay related issues, and provide support to alleviate their impact on employees.

IM/IT Modernization

To support its innovative clean technology and climate change science agenda, NRCan will be improving its capacity in scientific computing.

NRCan also continues to support the Government-wide IT Transformation agenda. In 2017-18, this will include working closely with Shared Services Canada to continue the consolidation and modernization of data centres, including those that provide 24/7 access to data that support emergency services. This work also includes system-wide updates to improve NRCan's cybersecurity resilience.

Budgetary financial resources (dollars)[7]

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
138,006,496	138,006,496	113,341,893	112,293,536

Human resources (full-time equivalents)

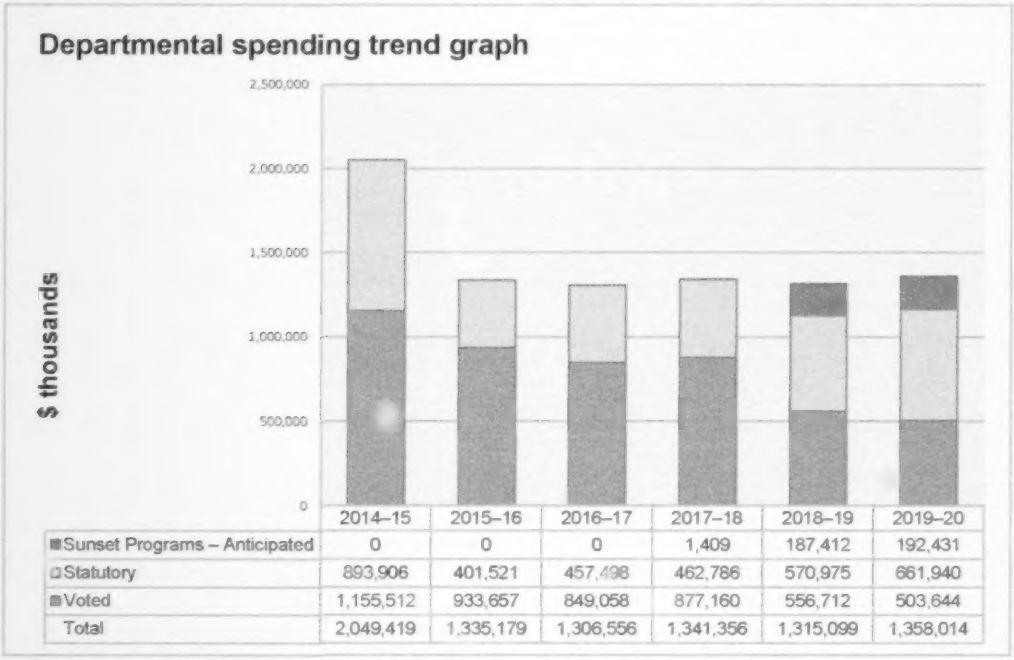
2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
922	882	888

[7] The Federal Infrastructure Initiative, which funded improvements to Government infrastructure such as laboratories, ends March 31, 2018.

Spending and human resources

Planned spending

Departmental Spending Trend Graph



	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
Sunset Programs – Anticipated	0	0	0	1,409	187,412	192,431
Statutory	893,906	401,521	457,498	462,786	570,975	661,940
Voted	1,155,512	933,657	849,058	877,160	556,712	503,644
Total	2,049,419	1,335,179	1,306,556	1,341,356	1,315,099	1,358,014

Budgetary planning summary for Programs and Internal Services (dollars)

Programs and Internal Services	2014–15 Expenditures	2015–16 Expenditures	2016–17 Forecast spending	2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
1.1 Market Access and Diversification	61,566,240	75,927,073	71,515,082	60,190,597	60,190,597	35,202,474	27,967,075
1.2 Innovation for New Products and Processes	71,707,214	93,375,233	90,043,988	109,154,844	109,154,844	39,171,754	37,607,582
1.3 Investment in Natural Resource Sectors	60,589,504	68,270,162	71,622,060	73,163,653	73,163,653	67,873,990	59,380,256
1.4 Statutory Programs – Atlantic Offshore	837,746,067	347,989,273	397,280,759	408,998,253	408,998,253	521,471,910	612,961,306
2.1 Energy-Efficient Practices and Lower-Carbon Energy Sources	291,745,439	211,012,423	193,050,061	183,461,546	183,461,546	137,174,523	107,117,070
2.2 Technology Innovation	151,832,220	143,620,407	150,077,078	219,965,182	219,965,182	81,401,428	77,567,268
2.3 Responsible Natural Resource Management	267,570,932	121,598,627	27,431,527	27,437,623	27,437,623	27,055,064	26,119,409
3.1 Protection for Canadians and Natural Resources	65,692,439	73,709,947	80,886,772	70,418,079	70,418,079	59,079,852	58,383,883
3.2 Landmass Information	78,469,116	74,110,670	66,130,847	49,150,177	49,150,177	45,914,237	46,185,753
Subtotal	**1,886,919,171**	**1,209,613,815**	**1,148,038,174**	**1,201,939,954**	**1,201,939,954**	**1,014,345,232**	**1,053,289,602**
Internal Services	162,499,616	125,564,854	158,517,783	138,006,496	138,006,496	113,341,893	112,293,536
Total	**2,049,418,787**	**1,335,178,669**	**1,306,555,957**	**1,339,946,450**	**1,339,946,450**	**1,127,687,125**	**1,165,583,138**

For 2014-15 and 2015-16, the figures represent the actual expenditures as reported in the Public Accounts while 2016-17 represents the forecasted expenditures to year end. From 2014-15 to 2016-17, NRCan expenditures drop significantly, mainly as a result of reduced payments under the Statutory Atlantic Offshore Accounts, the transfer of responsibility over the Nuclear Legacy Liabilities Program and Port Hope Area Initiative to Atomic Energy of Canada Limited and reduced spending under ecoENERGY for Biofuels and ecoENERGY Innovation Initiative contribution programs. These reductions were slightly offset by the implementation of the Federal Infrastructure Initiative and Budget 2016 initiatives.

The increase between 2016-17 Forecasted spending and 2017-18 Planned spending is mainly attributed to a projected increase for the Statutory Atlantic Offshore Accounts and the implementation of the Budget 2016 initiatives. These increases were slightly offset by the transfer of responsibility over Sustainable Development Technology Canada, reduced funding profiles for United Nations Convention on the Law of the Sea, Federal Infrastructure Initiative and Earthquake Monitoring and, the sunsetting of Soldier Settlement and ecoENERGY for Biofuels.

For 2017-18 to 2019-20, the figures represent total planned spending, reflecting funding to support NRCan program activities. Planned spending in Voted authorities is declining, mainly as a result of reduced funding profile for major initiatives (e.g., ecoENERGY for Renewable Power), and sunsetting programs, including the following major initiatives:

Sunsetting in 2017-18:

- Clean Growth and Climate Change;
- Federal Infrastructure Initiative;
- Green Infrastructure;
- Forest Innovation Program and Expanding Market Opportunities; and,
- Investments in Forest Industry Transformation.

Sunsetting in 2018-19:

- World Class Tanker Safety;
- Interim Strategy – Environmental Assessment Review; and,
- Enhancing Aboriginal Participation in West Coast Energy Development.

Planned spending in Statutory authorities is increasing, mainly as a result of the Atlantic Offshore Accounts. Statutory payment obligations under these accords are largely driven by oil and gas prices, production levels and anticipated corporate income taxes related to offshore operations. The increase is based on the Department's economic modeling forecasts prepared in the fall of 2016.

Anticipated renewals are included in the graph to give a more reasonable picture of the future of the Department but are subject to government's decisions to extend, reduce or enhance funding. Outcomes of such decisions will be reflected in the Department's future budget exercises and Estimates documents.

Planned human resources

Human resources planning summary for Programs and Internal Services (full-time equivalents)

Programs and Internal Services	2014–15 Full-time equivalents	2015–16 Full-time equivalents	2016–17 Forecast full-time equivalents	2017–18 Planned full-time equivalents	2018–19Planned full-time equivalents	2019–20Planned full-time equivalents
1.1 Market Access and Diversification	250	254	283	267	242	235
1.2 Innovation for New Products and Processes	296	313	316	289	255	252
1.3 Investment in Natural Resource Sectors	398	399	410	395	394	391
1.4 Statutory Programs – Atlantic Offshore	0	0	0	0	0	0
2.1 Energy-Efficient Practices and Lower-Carbon Energy Sources	278	264	274	252	162	163
2.2 Technology Innovation	635	665	651	646	539	541
2.3 Responsible Natural Resource Management	247	244	196	186	184	185
3.1 Protection for Canadians and Natural Resources	478	474	442	414	404	403
3.2 Landmass Information	385	383	396	386	378	377
Subtotal	**2,967**	**2,996**	**2,968**	**2,835**	**2,558**	**2,547**
Internal Services	946	940	909	922	882	888
Total	**3,913**	**3,936**	**3,877**	**3,757**	**3,440**	**3,435**

For 2014-15 and 2015-16, the figures represent the FTEs as reported in the Departmental Results Report while 2016-17 represents the forecasted FTEs to year end. NRCan's total FTE count remains relatively steady from 2014-15 to 2016-17.

For 2016-17 to 2019-20, the figures represent planned FTEs to support NRCan program activities. The decrease between 2016-17 and 2019-20 is mainly explained by the sunsetting of a number of major initiatives.

Furthermore, as new initiatives are undertaken, plans for future FTE requirements will be adjusted accordingly.

Estimates by vote

For information on NRCan's organizational appropriations, consult the 2017–18 Main Estimates.[xxiii]

Consolidated Future-Oriented Condensed Statement of Operations

The Consolidated Future-Oriented Condensed Statement of Operations provides a general overview of NRCan's operations. The forecast of financial information on expenses and revenues is prepared on an accrual accounting basis to strengthen accountability and to improve transparency and financial management.

Because the Consolidated Future-Oriented Condensed Statement of Operations is prepared on an accrual accounting basis, and the forecast and planned spending amounts presented in other sections of the Departmental Plan are prepared on an expenditure basis, amounts may differ.

A more detailed Consolidated Future-Oriented Statement of Operations and associated notes, including a reconciliation of the net cost of operations to the requested authorities, are available on NRCan's website.[xxiv]

Future-Oriented Condensed Statement of Operations for the year ended March 31 (dollars)

Financial information	2016–17 Forecast results	2017–18 Planned results	Difference (2017–18 Planned results minus 2016–17 Forecast results)
Total expenses	1,316,382,270	1,410,311,074	93,928,804
Total revenues	33,096,993	38,465,077	5,368,084
Net cost of operations before government funding and transfers	1,283,285,277	1,371,845,997	88,560,720

The increase of $94 million in expenses between years is mainly explained by:

- A $80 million increase in Technology Innovation mainly related to the Budget 2016 Initiatives of $92.2 million, which include the Clean Growth and Climate Change initiative, for the Oil and Gas Clean Technology Program and the Energy Innovation Program, and the Green Infrastructure Initiative, for the Electric Vehicle Infrastructure Demonstrations Program and a decrease of $17.3 million as a result of the transfer of responsibility for Sustainable Development Technology Canada to the Department of Innovation, Science and Economic Development Canada;
- A $22 million increase in Innovation for New Products and Processes mainly related to the reprofile from 2016-17 to 2017-18 of $14 million under Investments in Forest Industry Transformation Program; and

- A $15 million decrease in Landmass Information mainly related to the reduced program funding profile for United Nations Convention on the Law of the Sea.

The charts presenting the distribution by program of NRCan's total forecast expenses for 2016-17 and planned expenses for 2017-18 on an accrual basis are available on NRCan's website.[xxv]

Supplementary information

Corporate information

Organizational profile

Appropriate minister: The Honourable Jim Carr, P.C., M.P.

Institutional head: Christyne Tremblay

Ministerial portfolio:

- Atomic Energy of Canada Limited[xxvi] (AECL);
- National Energy Board[xxvii] (NEB);
- Canadian Nuclear Safety Commission[xxviii] (CNSC);
- Canada-Newfoundland and Labrador Offshore Petroleum Board[xxix] (CNLOPB);
- Canada-Nova Scotia Offshore Petroleum Board[xxx] (CNSOPB);
- Northern Pipeline Agency[xxxi] (NPA); and
- Energy Supplies Allocation Board (ESAB) (inactive).

Enabling instruments:

- Department of Natural Resources Act,[xxxii] S.C. 1994, c. 41
- Forestry Act,[xxxiii] R.S.C., 1985, c. F-30
- Resources and Technical Surveys Act,[xxxiv] R.S.C., 1985, c. R-7
- Energy Efficiency Act,[xxxv] S.C. 1992, c. 36

Year of incorporation/commencement: 1994

Reporting framework

NRCan's Strategic Outcome and Program Alignment Architecture of record for 2017–18 are shown below:

Strategic Outcome 1: Canada's Natural Resource Sectors are Globally Competitive

- **Program 1.1:** Market Access and Diversification
  - **Sub-Program 1.1.1:** Mineral and Metal Markets Access and Diversification
  - **Sub-Program 1.1.2:** Forest Products Market Access and Diversification
  - **Sub-Program 1.1.3:** Energy Market Access and Diversification
- **Program 1.2:** Innovation for New Products and Processes
  - **Sub-Program 1.2.1:** Mining Innovation
  - **Sub-Program 1.2.2:** Forest Sector Innovation
  - **Sub-Program 1.2.3:** Geospatial Innovation
- **Program 1.3:** Investment in Natural Resource Sectors
  - **Sub-Program 1.3.1:** Mineral Investment
  - **Sub-Program 1.3.2:** Targeted Geoscience Initiative
  - **Sub-program 1.3.3:** Geo-Mapping for Energy and Minerals
  - **Sub-program 1.3.4:** Geoscience for New Energy Supply
  - **Sub-program 1.3.5:** Major Projects Management Office Initiative
- **Program 1.4:** Statutory Programs – Atlantic Offshore

Strategic Outcome 2: Natural Resource Sectors and Consumers are Environmentally Responsible

- **Program 2.1:** Energy-Efficient Practices and Lower-Carbon Energy Sources
  - **Sub-Program 2.1.1:** Renewable Energy Deployment
  - **Sub-Program 2.1.2:** Support for Clean Energy Decision-Making
  - **Sub-Program 2.1.3:** Alternative Transportation Fuels
  - **Sub-Program 2.1.4:** Energy Efficiency
- **Program 2.2:** Technology Innovation
  - **Sub-Program 2.2.1:** Materials for Energy
  - **Sub-Program 2.2.2:** Green Mining
  - **Sub-Program 2.2.3:** Clean Energy Science and Technology
- **Program 2.3:** Responsible Natural Resource Management
  - **Sub-Program 2.3.1:** Forest Ecosystem Science and Application
  - **Sub-Program 2.3.2:** Groundwater Geoscience
  - **Sub-program 2.3.3:** Environmental Studies and Assessments
  - **Sub-program 2.3.4:** Geospatial Information for Responsible Natural Resource Management

Strategic Outcome 3: Canadians have Information to Manage their Lands and Natural Resources, and are Protected from Related Risks

- **Program 3.1:** Protection for Canadians and Natural Resources
  - **Sub-Program 3.1.1**: Explosives Safety and Security
  - **Sub-Program 3.1.2:** Materials and Certification for Safety and Security
  - **Sub-Program 3.1.3:** Forest Disturbances Science and Application
  - **Sub-Program 3.1.4:** Climate Change Adaptation
  - **Sub-Program 3.1.5:** Geohazards and Public Safety
- **Program 3.2:** Landmass Information
  - **Sub-Program 3.2.1:** Essential Geographic Information
  - **Sub-Program 3.2.2:** Canada's Legal Boundaries
  - **Sub-Program 3.2.3:** Polar Continental Shelf Logistics Support
  - **Sub-Program 3.2.4:** United Nations Convention on the Law of the Sea
- **Program 4.1:** Internal Services

Supporting information on lower-level programs is available on NRCan's website[xxxvi] and in the TBS InfoBase.[xxxvii]

Supplementary information tables

The following supplementary information tables are available on NRCan's website.[xxxviii]

- Details on transfer payment programs of $5 million or more
- Disclosure of transfer payment programs under $5 million
- Horizontal initiatives
- Upcoming evaluations over the next five fiscal years
- Upcoming internal audits for the coming fiscal year
- Up-front multi-year funding

Federal tax expenditures

The tax system can be used to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. The Department of Finance Canada publishes cost estimates and projections for these measures each year in the Report on Federal Tax Expenditures.[xxxix] This report also provides detailed background information on tax expenditures, including descriptions, objectives, historical information and references to related federal spending programs. The tax measures presented in this report are the responsibility of the Minister of Finance.

Organizational contact information

Natural Resources Canada

580 Booth Street

Ottawa, Ontario

K1A 0E4

Canada

Appendix: Definitions

Appropriation (crédit)

Any authority of Parliament to pay money out of the Consolidated Revenue Fund.

budgetary expenditures (dépenses budgétaires)

Operating and capital expenditures; transfer payments to other levels of government, organizations or individuals; and payments to Crown corporations.

Core Responsibility (responsabilité essentielle)

An enduring function or role performed by a department. The intentions of the department with respect to a Core Responsibility are reflected in one or more related Departmental Results that the department seeks to contribute to or influence.

Departmental Plan (Plan ministériel)

Provides information on the plans and expected performance of appropriated departments over a three-year period. Departmental Plans are tabled in Parliament each spring.

Departmental Result (résultat ministériel)

A Departmental Result represents the change or changes that the department seeks to influence. A Departmental Result is often outside departments' immediate control, but it should be influenced by program-level outcomes.

Departmental Result Indicator(indicateur de résultat ministériel)

A factor or variable that provides a valid and reliable means to measure or describe progress on a Departmental Result.

Departmental Results Framework (cadre ministériel des résultats)

Consists of the department's Core Responsibilities, Departmental Results and Departmental Result Indicators.

Departmental Results Report (Rapport sur les résultats ministériels)

Provides information on the actual accomplishments against the plans, priorities and expected results set out in the corresponding Departmental Plan.

full-time equivalent (équivalent temps plein)

A measure of the extent to which an employee represents a full person-year charge against a departmental budget. Full-time equivalents are calculated as a ratio of assigned hours of work to scheduled hours of work. Scheduled hours of work are set out in collective agreements.

government-wide priorities (priorités pan-gouvernementales)

For the purpose of the 2017–18 Departmental Plan, government-wide priorities refers to those high-level themes outlining the government's agenda in the 2015 Speech from the Throne, namely: Growth for the Middle Class; Open and Transparent Government; A Clean Environment and a Strong Economy; Diversity is Canada's Strength; and Security and Opportunity.

horizontal initiatives (initiative horizontale)

A horizontal initiative is one in which two or more federal organizations, through an approved funding agreement, work toward achieving clearly defined shared outcomes, and which has been designated (e.g. by Cabinet, a central agency, etc.) as a horizontal initiative for managing and reporting purposes.

Management, Resources and Results Structure (Structure de la gestion, des ressources et des résultats)

A comprehensive framework that consists of an organization's inventory of programs, resources, results, performance indicators and governance information. Programs and results are depicted in their hierarchical relationship to each other and to the Strategic Outcome(s) to which they contribute. The Management, Resources and Results Structure is developed from the Program Alignment Architecture.

non-budgetary expenditures (dépenses non budgétaires)

Net outlays and receipts related to loans, investments and advances, which change the composition of the financial assets of the Government of Canada.

performance (rendement)

What an organization did with its resources to achieve its results, how well those results compare to what the organization intended to achieve, and how well lessons learned have been identified.

Performance indicator (indicateur de rendement)

A qualitative or quantitative means of measuring an output or outcome, with the intention of gauging the performance of an organization, program, policy or initiative respecting expected results.

Performance reporting (production de rapports sur le rendement)

The process of communicating evidence-based performance information. Performance reporting supports decision making, accountability and transparency.

planned spending (dépenses prévues)

For Departmental Plans and Departmental Results Reports, planned spending refers to those amounts that receive Treasury Board approval by February 1. Therefore, planned spending may include amounts incremental to planned expenditures presented in the Main Estimates.

A department is expected to be aware of the authorities that it has sought and received. The determination of planned spending is a departmental responsibility, and departments must be able to defend the expenditure and accrual numbers presented in their Departmental Plans and Departmental Results Reports.

plans (plan)

The articulation of strategic choices, which provides information on how an organization intends to achieve its priorities and associated results. Generally a plan will explain the logic behind the strategies chosen and tend to focus on actions that lead up to the expected result.

Priorities (priorité)

Plans or projects that an organization has chosen to focus and report on during the planning period. Priorities represent the things that are most important or what must be done first to support the achievement of the desired Strategic Outcome(s).

program (programme)

A group of related resource inputs and activities that are managed to meet specific needs and to achieve intended results and that are treated as a budgetary unit.

Program Alignment Architecture (architecture d'alignement des programmes)

A structured inventory of an organization's programs depicting the hierarchical relationship between programs and the Strategic Outcome(s) to which they contribute.

results (résultat)

An external consequence attributed, in part, to an organization, policy, program or initiative. Results are not within the control of a single organization, policy, program or initiative; instead they are within the area of the organization's influence.

statutory expenditures (dépenses législatives)

Expenditures that Parliament has approved through legislation other than appropriation acts. The legislation sets out the purpose of the expenditures and the terms and conditions under which they may be made.

Strategic Outcome (résultat stratégique)

A long-term and enduring benefit to Canadians that is linked to the organization's mandate, vision and core functions.

sunset program (programme temporisé)

A time-limited program that does not have an ongoing funding and policy authority. When the program is set to expire, a decision must be made whether to continue the program. In the case of a renewal, the decision specifies the scope, funding level and duration.

target (cible)

A measurable performance or success level that an organization, program or initiative plans to achieve within a specified time period. Targets can be either quantitative or qualitative.

voted expenditures (dépenses votées)

Expenditures that Parliament approves annually through an Appropriation Act. The Vote wording becomes the governing conditions under which these expenditures may be made.

Endnotes

i The Pan-Canadian Framework on Clean Growth and Climate Change, https://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework.html

ii The Surveyor General, https://www.nrcan.gc.ca/earth-sciences/geomatics/canada-lands-surveys/surveyor-general/10876

iii Oceans Protection Plan, https://www.tc.gc.ca/eng/oceans-protection-plan.html

iv List of Acts and Regulations, http://www.nrcan.gc.ca/acts-regulations/59

v Department of Natural Resources Act, http://laws-lois.justice.gc.ca/eng/acts/N-20.8/

vi Resources and Technical Surveys Act, http://laws-lois.justice.gc.ca/eng/acts/R-7/

vii Forestry Act, http://laws-lois.justice.gc.ca/eng/acts/F-30/

viii Energy Efficiency Act, http://laws-lois.justice.gc.ca/eng/acts/e-6.4/

ix The Minister's mandate letter, http://pm.gc.ca/eng/mandate-letters

x The Pan-Canadian Framework on Clean Growth and Climate Change, https://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework.html

xi RADARSAT Constellation, http://www.asc-csa.gc.ca/eng/satellites/radarsat/

xii GEM: Geo-mapping for Energy and Minerals, http://www.nrcan.gc.ca/earth-sciences/resources/federal-programs/geomapping-energy-minerals/18215

xiii Canada's Climate Change Adaptation Platform, http://www.nrcan.gc.ca/environment/impacts-adaptation/adaptation-platform/10027

xiv GEOSCAN Database, http://geoscan.nrcan.gc.ca/geoscan-index.html

xv Oceans Protection Plan, https://www.tc.gc.ca/eng/oceans-protection-plan.html

xvi The Canadian Spatial Reference System (CSRS), http://www.nrcan.gc.ca/earth-sciences/geomatics/geodetic-reference-systems/9052

xvii GeoBase, http://www.geobase.ca/

xviii Open Maps, http://open.canada.ca/en/open-maps

Polar Continental Shelf Program, https://www.nrcan.gc.ca/the-north/polar-continental-shelf-program/polar-shelf/10003

xx Sub-programs, https://www.nrcan.gc.ca/plans-performance-reports/dp/2017-18/19298

xxi TBS InfoBase, https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

xxii 2016 Distinction Awards Medalists, http://www.gtec.ca/ottawa/wp-content/uploads/GTEC_DistinctionAwards_Medalists_2016.pdf

xxiii 2017–18 Main Estimates, http://www.tbs-sct.gc.ca/hgw-cgf/finances/pgs-pdg/gepme-pdgbpd/index-eng.asp

xxiv NRCan Future-oriented Financial Statements, https://www.nrcan.gc.ca/node/771/revisions/95795/view

xxv NRCan charts presenting the distribution by program, https://www.nrcan.gc.ca/plans-performance-reports/dp/2017-18/19361

xxvi Atomic Energy of Canada Limited, http://www.aecl.ca/en/home/default.aspx

xxvii National Energy Board, http://www.neb.gc.ca/clf-nsi/rcmmn/hm-eng.html

xxviii Canadian Nuclear Safety Commission, http://www.cnsc-ccsn.gc.ca/eng/

xxix Canada-Newfoundland and Labrador Offshore Petroleum Board, http://www.cnlopb.ca/

xxx Canada-Nova Scotia Offshore Petroleum Board, http://www.cnsopb.ns.ca/

xxxi Northern Pipeline Agency, http://npa.gc.ca/home

xxxii Department of Natural Resources Act, http://laws-lois.justice.gc.ca/eng/acts/N-20.8/

xxxiii Forestry Act, http://laws-lois.justice.gc.ca/eng/acts/F-30/

xxxiv Resources and Technical Surveys Act, http://laws-lois.justice.gc.ca/eng/acts/R-7/

xxxv Energy Efficiency Act, http://laws-lois.justice.gc.ca/eng/acts/e-6.4/

xxxvi Sub-programs, https://www.nrcan.gc.ca/plans-performance-reports/dp/2017-18/19298

xxxvii TBS InfoBase, https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

xxxviii List of Supplementary Tables https://www.nrcan.gc.ca/plans-performance-reports/dp/2017-18/19270

xxxix Report on Federal Tax Expenditures, http://www.fin.gc.ca/purl/taxexp-eng.asp